

Nishiumi discloses an image processing system, such as a video game machine, which is adapted to display an object in a realistic manner in a three-dimensional space on a display such that the object is moved in accordance with the direction and amount of inclination of an operating member, such as an analog joystick (col. 1, lines 10-18). The system is controlled using controller 40 which includes a cross-shaped digital direction switch 403, button switches 404A-404F and a joystick 45 providing an analog input (col. 6, lines 9-16). Joystick 45 generates a number of pulses proportional to the amount of inclination of a lever in directions of the X-axis and Y-axis and provides respective pulse signals to the counters 444X and 444Y (col. 7, lines 18-32).

Data from controller 40 is transmitted to an image processing apparatus 10 for object movement (col. 8, lines 33-37). A CPU 11 executes processes to alter the position of the object in accordance with joystick data from controller 40 (col. 8, lines 53-55). CPU 11 converts the XY coordinate data for the joystick 45 into coordinate data (u, v) in an UV plane (col. 10, lines 13-34) and the CPU 11 calculates or detects the amount of inclination L of the joystick 45, the moving speed 8 of the object and the moving direction  $\alpha$  (col. 10, lines 35-55). The moving speed is calculated based on the inclination L and self-running maximum speed (col. 10, lines 35-55). CPU 11 compares the moving speed S1 of the object in the previous frame with the currently calculated speed S and determines whether  $S1 > S$  (col. 10, lines 55-65). If the determination is "No", a process of acceleration is executed, and if the determination is "Yes", a process of deceleration is executed (col. 10, line 66 – col. 11, line 2).

Lipps discloses a type of hand-held control pad for a computer game, which has four directional control push-buttons and a number of non-directional push-buttons (col. 1, lines 28-30). The push-buttons are dual state (on/off) buttons (col. 1, lines 30-31). Each directional button, when pressed by the operator, causes a corresponding directional action of the character in the video game such as turning the character to the right or left (col. 1, lines 31-34).

There is no suggestion or motivation to combine the disclosures of Nishiumi and Lipps. As discussed further below, there is no indication in the prior art of any benefit or desirability to modify the system of Nishiumi as proposed by the Office Action. Furthermore, Nishiumi specifically teaches away from the inclusion of push buttons.

In the process described in Nishiumi, the use of inclination data and an inclination device, such as a joystick, **is essential** to determining the speed at which the cursor should move. Without inclination data, no speed can be calculated. Furthermore, without inclination data, the speed cannot be resolved into x and y components and used to calculate new positions. Therefore, because Nishiumi requires the use of a joystick to retrieve inclination information, there would be no benefit to replacing the joystick with push buttons as disclosed in Lipps. In addition, because the proposed combination would preclude the ability of Nishiumi to retrieve necessary inclination information, the proposed combination of Nishiumi and Lipps would render the system of Nishiumi unsatisfactory for its intended purpose.

Furthermore, Nishiumi specifically **teaches away** from the use of a dual-state button for acceleration of a focus. Nishiumi discloses a cross switch 403 (col. 8, lines 11-14). However, Nishiumi states that such buttons as cross-shaped keys found on video game controllers have a drawback, which is that "speed of movement is impossible to designate" (col. 1, lines 26-27). Thus, Nishiumi clearly teaches away from using the system with a cross switch or any switch that does not provide inclination data, such as a dual-state button.

Thus, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claims 1-3, 5-8, 14, 15, 17-19, 22, 29 and 30-39 are patentable over the cited combination of Nishiumi and Lipps. Applicant respectfully requests that the rejection of claims 1-3, 5-8, 14, 15, 17-19, 22, 29 and 30-39 be reconsidered and withdrawn.

Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,323,884 to Bird et al., hereinafter "Bird", in view of Lipps. Claims 23 and 27 are independent. Applicant respectfully disagrees.

Independent claim 23 provides a method of selecting one of a plurality of objects on a graphical display using a focus. The method includes i) receiving a signal from a dual-state button having a single depressed state, to move the focus, ii) determining a direction of motion of the focus, iii) determining, in dependence upon the direction of motion, which one of said plurality of objects is the intended destination of the focus, and iv) highlighting the one object for selection.

Bird discloses a mechanism for assisting a graphical user interface (GUI) user with the task of selecting a GUI object (col. 2, lines 24-25). The mechanism is specifically useful in conjunction with eye-tracking mechanisms and devices with small display areas such as PDA's (col. 4, lines 20-22). The mechanism compares a predefined set of characteristics for identified GUI elements to predict which of those GUI elements will be the next element that the user will interact with, and visually indicates the result of the prediction (col. 2, lines 26-33). The characteristics may include a determination of whether the identified GUI elements are within a user indicated region of the GUI, the user indication including an initial user-controlled movement of a selection pointer and a vector representing the direction of movement and starting position of the pointer (col. 2, lines 56-62). In one example, after the software predicts which GUI will be selected, the software "moves a selection pointer into the area of the GUI of the selected button (if the selection mechanism uses a pointer) or adds emphasis such as a highlight colour or animation of the selected button" (col. 12-17).

Lipps discloses a hand-held control pad having four directional dual-state control push-buttons (col. 1, lines 28-31). When each directional button is pressed, a corresponding directional action of a character in a video game results (col. 1, lines 31-34)

The Office Action states that it would be obvious to modify Bird by including a dual-state directional button for moving the focus "to provide the user with a simpler and more accurate way of moving the focus in the cardinal directions" (page 9). Applicant disagrees, and submits that there is no suggestion or motivation to combine the teachings of Bird in view of Lipps, as suggested by the Office Action.

Bird discloses a device that is purported to have particular advantages for apparatuses which use eye tracking mechanisms for user input and apparatuses such as a PDA's which have a relatively small display area for displaying a GUI, such that individual GUI elements are small (column 4, lines 20 to 24). The Bird device is also purported to have advantages for computing apparatuses that include input devices that are hard to control with high accuracy and also for users who have physical limitations on the ability to control input devices (column 4, lines 24 to 28). The Bird device can purportedly reduce the amount of hand movement required to navigate a GUI, which results in potential health benefits (col. 3, lines 22-28).

Bird describes, for example, that ". . . within a GUI of a PDA, individual buttons may be as small as 12 pixels square such that it is difficult to make a positive selection of a specific button with any **continuous positioning mechanism** that is fully controlled by the user (i.e. devices such as a mouse 60, IBM Corporation's Trackpoint (™) input device or a light pen, **as distinct from discrete selection using tab keys**)" (emphasis added) (Column 4, lines 36 to 43).

Therefore, Bird specifically contemplates the device to be used in conjunction with continuous pointing mechanisms, such as a mouse, as distinguished from buttons such as tab keys. There is no suggestion of any desirability in Bird or Lipps to include a dual-state direction button in the device in Lipps.

Furthermore, including a solid-state directional push button would render the device of Bird unsuitable for its intended purpose. First, a directional push button would require additional movement of the hand in order to control movement of a cursor, as compared to a

continuous positioning mechanism. This result would be detrimental to Bird's stated purpose of minimizing the hand use required in selecting an object.

Second, Bird is contemplated for use with devices having small GUI's. Including a directional push button would render control of the PDA more difficult, as the directional push button would provide less directional information than a continuous positioning mechanism. A continuous positioning mechanism is able to provide more detailed directional information for allowing the service component to establish which element is potentially the next element for interaction. Therefore, even if a skilled person were to employ a dual state button, then such a button would be in the form of a tab key, where a user could select an icon by repeatedly pressing a tab key to cause a cursor to jump from one element to another. This possibility is already suggested by Bird.

Therefore, there is no motivation to combine the teachings of Bird and Lipps. Thus, Applicant submits that claim 23 is patentable over the cited combination of Bird and Lipps.

Claims 24-26 depend from claim 23. For at least reasoning similar to that provided in support of the patentability of claim 23, claims 24-26 are patentable over the cited combination of Bird and Lipps.

Independent claim 27 recites features similar to those recited in claim 23. Therefore, for at least reasoning similar to that provided in support of the patentability of claim 23, claim 27 is patentable over the cited combination of Bird and Lipps.

For the reasons set forth above, the rejection of claims 23-27 under 35 U.S.C. 103(a) as being unpatentable over Bird in view of Lipps is overcome. Applicant respectfully requests that the rejection of claims 23-27 be reconsidered and withdrawn.

Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiumi in view of Lipps. Claims 16 and 20 depend from claim 1. Applicant respectfully disagrees.

As discussed above, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claims 16 and 20 are patentable over the cited combination of Nishiumi and Lipps. Applicant respectfully requests that the rejection of claims 16 and 20 be reconsidered and withdrawn.

Claims 4, 28, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiumi in view of Lipps, and further in view of Bird. Claim 28 is independent. Claims 4, 40 and 41 depend from claim 1. Applicant respectfully disagrees.

As discussed above, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claims 4, 28, 40 and 41 are patentable over the cited combination of Nishiumi and Lipps. Applicant does not believe that Bird makes up for the deficiencies of Nishiumi and Lipps, as they apply to claims 4, 28, 40 and 41. Accordingly, Applicant submits that claims 4, 28, 40 and 41 are patentable over the cited combination of Nishiumi, Lipps and Bird. Applicant respectfully requests that the rejection of claims 4, 28, 40 and 41 be reconsidered and withdrawn.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiumi in view of Lipps, and further in view of U.S. Patent No. 5,874,941 to Yamada, hereinafter "Yamada". Claims 10-13 depend from claim 1. Applicant respectfully disagrees.

As discussed above, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claims 10-13 are patentable over the cited combination of Nishiumi and Lipps. Applicant does not believe that Yamada makes up for the deficiencies of Nishiumi and Lipps, as they apply to claims 10-13. Accordingly, Applicant submits that claims 10-13 are patentable over the cited combination of Nishiumi, Lipps and Yamada.

Applicant respectfully requests that the rejection of claims 10-13 be reconsidered and withdrawn.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiumi in view of Lipps and Bird, and further in view of U.S. Patent No. 5,764,219 to Rutledge et al., hereinafter "Rutledge". Claim 42 depends from claim 1. Applicant respectfully disagrees.

As discussed above, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claim 42 is patentable over the cited combination of Nishiumi and Lipps. Applicant does not believe that Bird and Rutledge make up for the deficiencies of Nishiumi and Lipps, as they apply to claim 42. Accordingly, Applicant submits that claim 42 is patentable over the cited combination of Nishiumi, Lipps, Bird and Rutledge. Applicant respectfully requests that the rejection of claim 42 be reconsidered and withdrawn.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiumi in view of Lipps, and further in view of U.S. Patent No. 5,953,657 to Ghisler, hereinafter "Ghisler". Claim 21 depends from claim 1. Applicant respectfully disagrees.

As discussed above, there is no suggestion or motivation to combine Nishiumi and Lipps. Therefore, claim 21 is patentable over the cited combination of Nishiumi and Lipps. Applicant does not believe that Ghisler makes up for the deficiencies of Nishiumi and Lipps, as they apply to claim 21. Accordingly, Applicant submits that claim 21 is patentable over the cited combination of Nishiumi, Lipps and Ghisler. Applicant respectfully requests that the rejection of claim 21 be reconsidered and withdrawn.

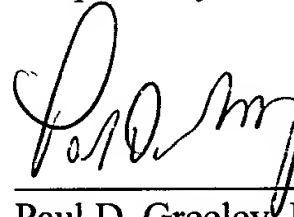
Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bird in view of Lipps, and further in view of U.S. Patent No. 5,757,358 to Osga, hereinafter "Osga". Claim 43 depends from claim 23. Applicant respectfully disagrees.

As discussed above, claim 23 is patentable over the cited combination of Bird and Lipps. Applicant does not believe that Osga makes up for the deficiencies of Bird and Lipps, as they apply to claim 23.

Claim 43 depends from claim 23. For at least reasoning similar to that provided in support of claim 23, claim 43 is patentable over the cited combination of Bird, Lipps and Osga. Applicant respectfully requests that the rejection of claim 43 be reconsidered and withdrawn.

In view of the foregoing, Applicant respectfully submits that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicant respectfully requests favorable consideration and that this application be passed to allowance.

Respectfully submitted,



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